General Specifications

Item	Specification
Lubricants and Chemicals	
Super Premium SAE 10W-30, XO-10W30-DSP	WSS-M2C153-G

Torque Specifications

Description	Nm	lb-ft	lb-in
Throttle body bolts	10	—	89
Fuel injection supply manifold bolts	10	—	89
Fuel charging wiring 42 pin connector bolt	6	—	53
Battery supply wire nut	8	—	71
EGR pressure transducer bracket bolts	25	18	—
Generator battery supply nut	8	—	71

Fuel Charging And Controls

The fuel injection supply manifold (9F792):

- delivers fuel to the fuel injector.
- receives fuel from the fuel supply line.

The throttle body (9E926):

- controls air supply to the upper intake manifold (9424) by positioning the throttle plate.
- connects the accelerator cable (9A758) and the speed control actuator cable (9A825) (if equipped) to the throttle lever.
- is not adjustable.
- cannot be cleaned.

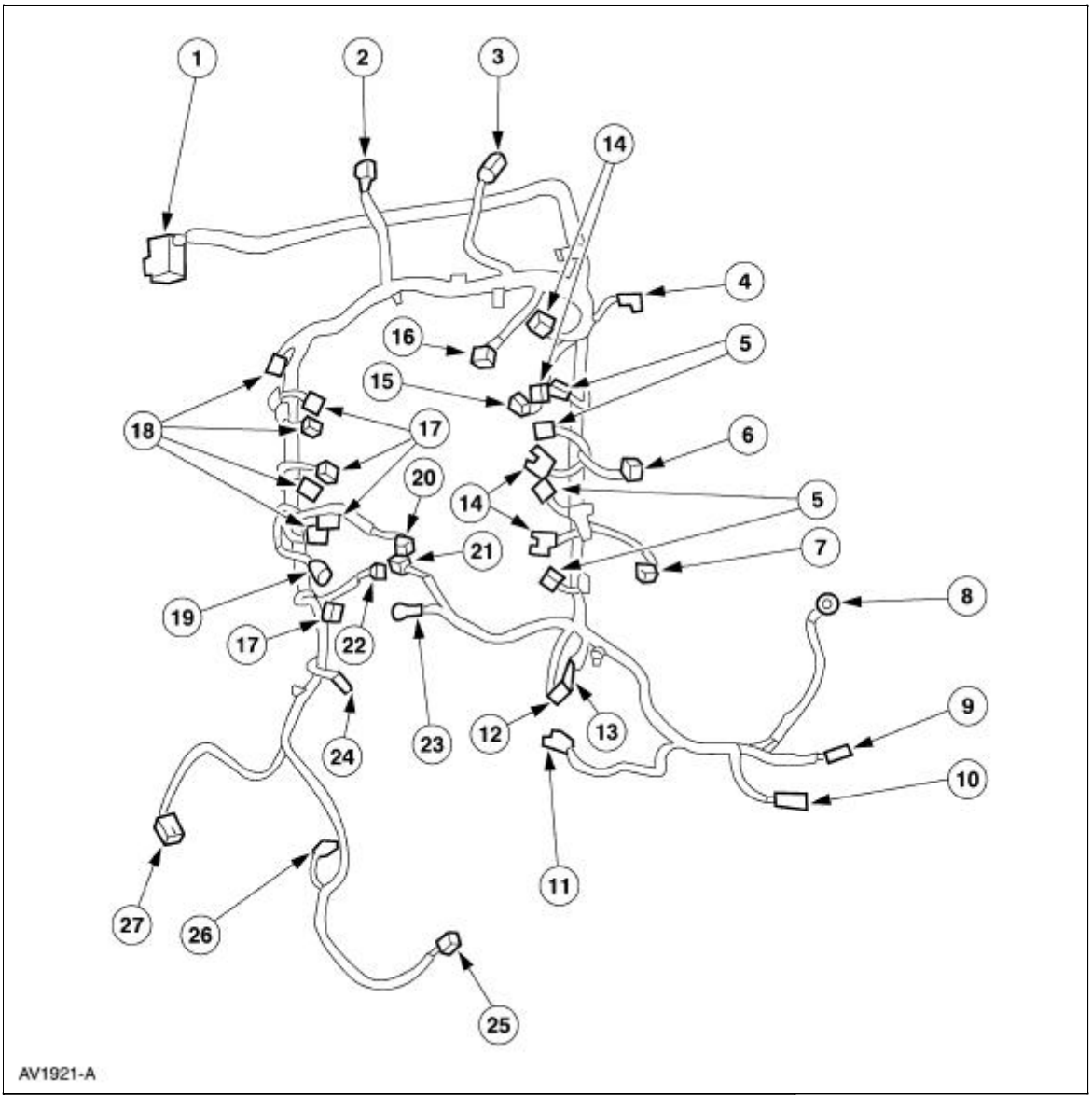
The fuel injector (9F593):

- is electrically operated by the powertrain control module (PCM) (12A650).
- has an internal solenoid that opens a needle valve to inject fuel into the lower intake manifold.
- atomizes the fuel as the fuel is delivered.
- is deposit-resistant. Do not clean.

The fuel pressure relief valve (9H321):

- is used to inspect and relieve fuel pressure.

Fuel Charging Wiring Connections



AV1921-A

Item	Part Number	Description
1	—	Engine control sensor wiring — 42 pin electrical connector
2	—	RH heated oxygen sensor (HO2S) electrical connector
3	—	LH heated oxygen sensor (HO2S) electrical connector
4	—	Ground wire electrical connector
5	—	LH ignition coil electrical connectors
6	—	Fuel pressure sensor electrical connector
7	—	Fuel temperature sensor electrical connector
8	—	Power distribution box battery feed electrical wire
9	—	2 pin electrical connector
10	—	4 pin electrical connector
11	—	Camshaft position sensor (CMP) electrical connector

12	—	Coolant reservoir bottle electrical connector
13	—	Radio ignition interference capacitor electrical connector
14	—	Fuel injector electrical connectors
15	—	Exhaust vacuum regulator (EVR) electrical connector
16	—	Differential pressure feedback EGR electrical connector
17	—	RH ignition coil electrical connectors
18	—	Ignition coil electrical connectors
19	—	Throttle position (TP) sensor electrical connector
20	—	Idle air control (IAC) solenoid electrical connector
21	—	Voltage regulator electrical connector
22	—	Engine coolant temperature (ECT) electrical connector
23	—	Generator battery electrical connector
24	—	Radio ignition interference capacitor electrical connector
25	—	Crankshaft position (CKP) sensor electrical connector
26	—	Air conditioning compressor clutch electrical connector
27	—	16 pin electrical connector

Fuel Charging And Controls

Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.

Idle Speed Adjustment

Powertrain Control/Emissions Diagnosis (PC/ED) manual

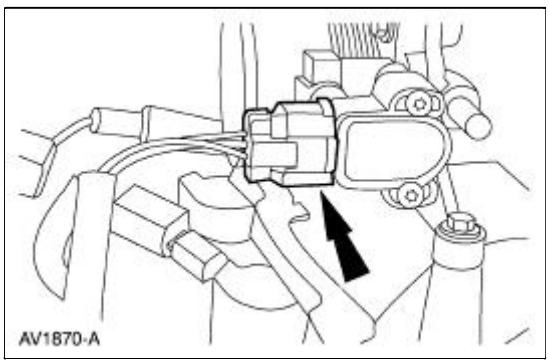
Throttle Body

Removal

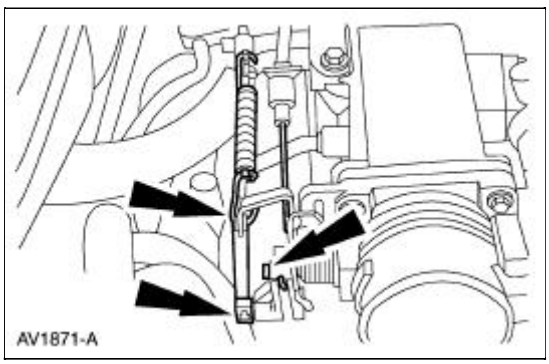
WARNING: Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel related components. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in personal injury.

CAUTION: The throttle body bore and plate area have a special coating and cannot be cleaned.

1. Remove the air cleaner outlet tube (9B659). For additional information, refer to Section 303-12 .
2. Disconnect the throttle position (TP) sensor electrical connector.

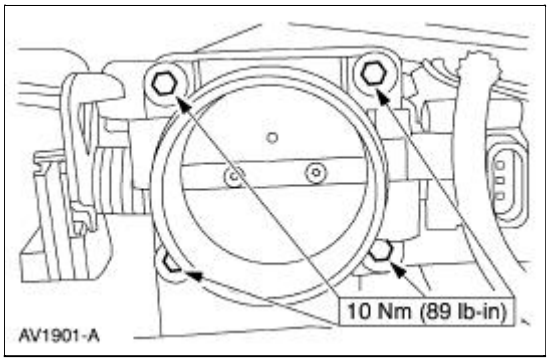


3. Disconnect the accelerator controls.
   - Disconnect the accelerator cable (9E926).
   - Disconnect the speed control cable (9A825).
   - Disconnect the return spring.



4. **NOTE:** Discard the throttle body gasket.

   Remove the throttle body.
   - Remove the bolts.
   - Remove the throttle body.



Installation

1. To install, reverse the removal procedure.

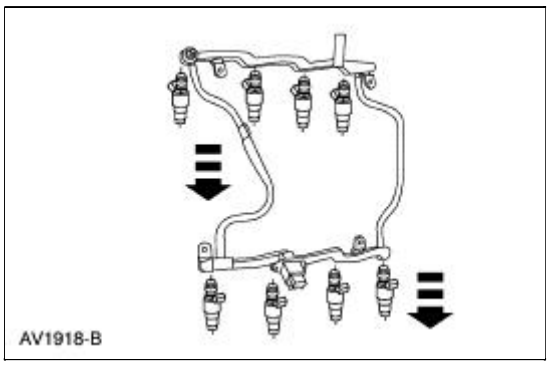
Fuel Injectors

Removal

WARNING: Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel related components. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in personal injury.

WARNING: Fuel in the fuel system remains under high pressure even when the engine is not running. Before working on or disconnecting any of the fuel lines or fuel system components, the fuel pressure must be relieved. Failure to follow these instructions may result in personal injury.

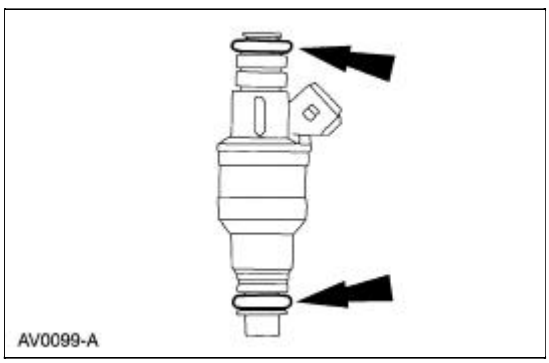
1. Relieve the fuel pressure. For additional information, refer to Section 310-00 .
2. Remove the supply manifold. For additional information, refer to Fuel Injection Supply Manifold in this section.
3. Remove the fuel injectors from the supply manifold.



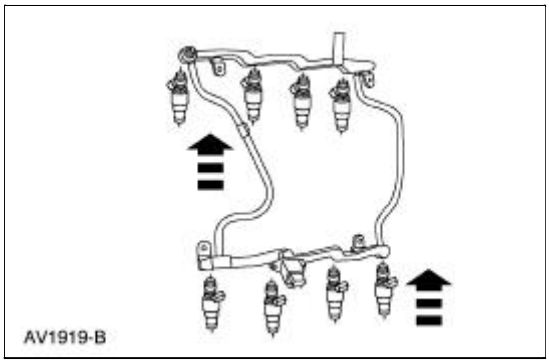
Installation

1. **NOTE:** Lubricate the new O-rings with Super Premium SAE 10W-30, XO-10W30-DSP or equivalent meeting Ford specification WSS-M2C153-G, to aid installation.

   Inspect the two O-rings on each fuel injector. Install new O-rings if necessary.



2. Install the fuel injectors onto the supply manifold.



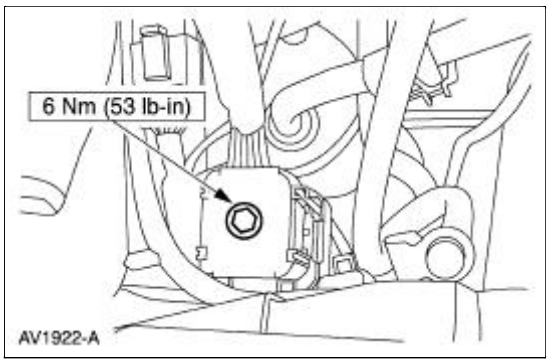
3. Install the fuel supply manifold.

Fuel Charging Wiring Harness

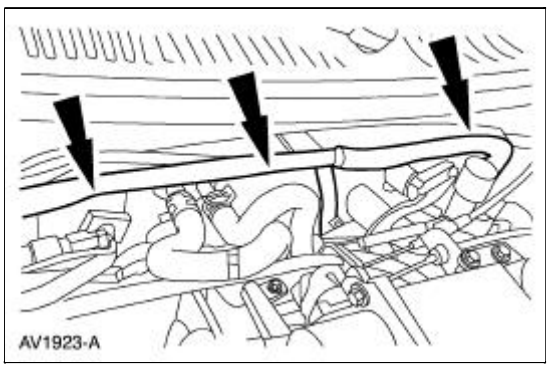
Removal

WARNING: Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel related components. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in personal injury.

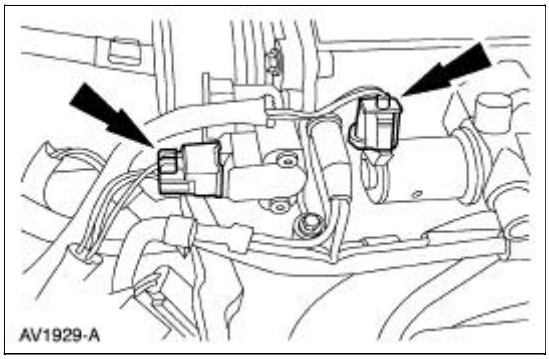
1. Disconnect the battery ground cable (14301). For additional information, refer to Section 414-01 .
2. Disconnect the air cleaner outlet tube. For additional information, refer to Section 303-12 .
3. Disconnect the 42 pin connector.



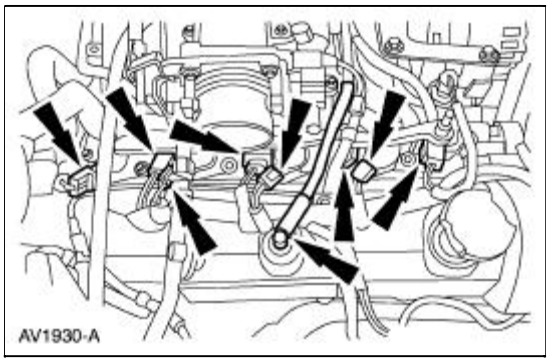
4. Separate the wiring harness retainers from the dash panel.



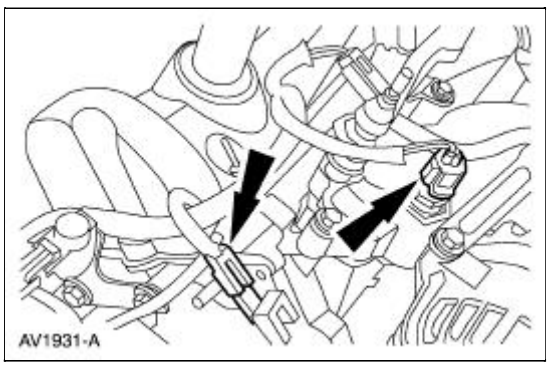
5. Disconnect the following connectors:
   - Throttle position (TP) sensor
   - Idle air control (IAC) valve



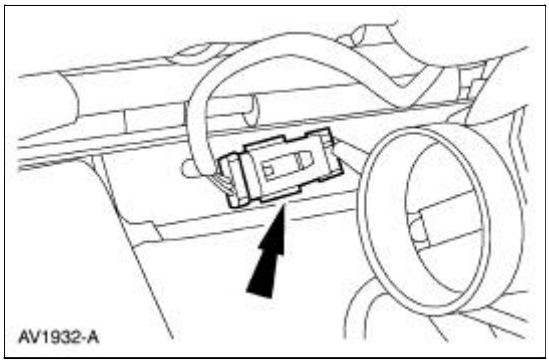
6. Disconnect the following connections:
    - Four ignition coils
    - Four fuel injectors
    - Positive crankcase ventilation (PCV) hose from valve cover.



7. Disconnect the following connectors:
    - RH radio ignition interference capacitor
    - Engine coolant temperature (ECT) sensor

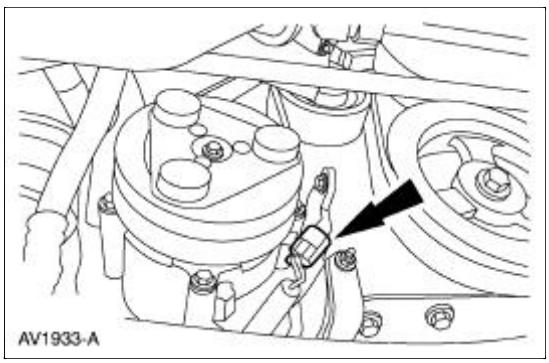


8. Disconnect the 16 pin connector

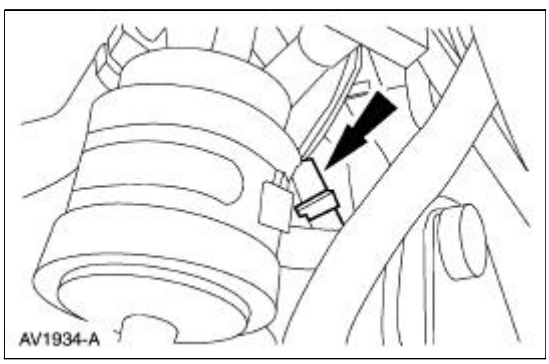


9. Raise the vehicle. For additional information, refer to Section 100-02 .

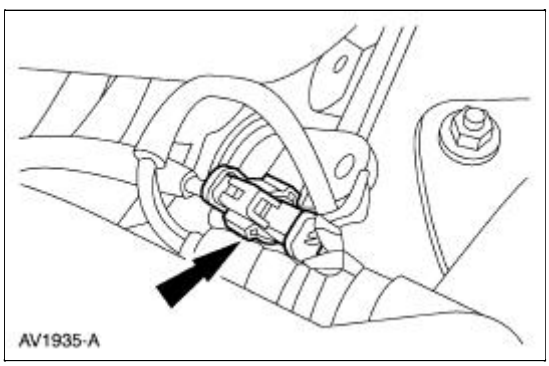
10. Disconnect the crankshaft position (CKP) sensor electrical connector.



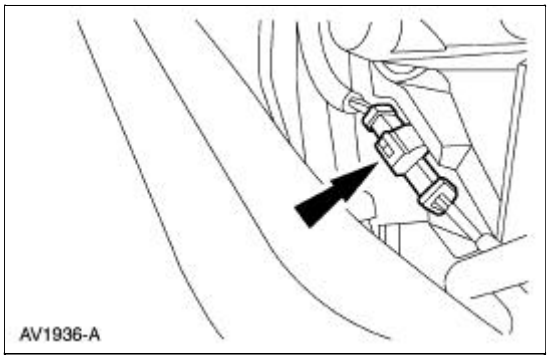
11. Disconnect the A/C compressor clutch electrical connector.



12. Disconnect the RH heated oxygen sensor (HO2S) electrical connector.

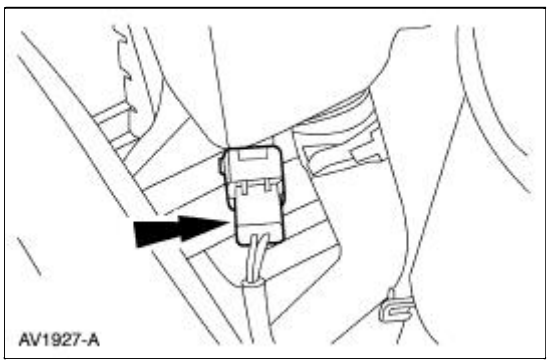


13. Disconnect the LH heated oxygen sensor (HO2S) electrical connector.

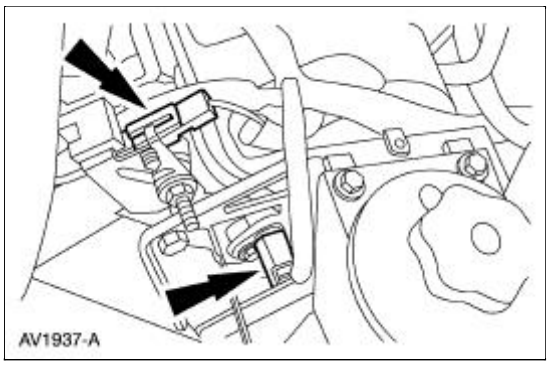


14. Lower the vehicle.

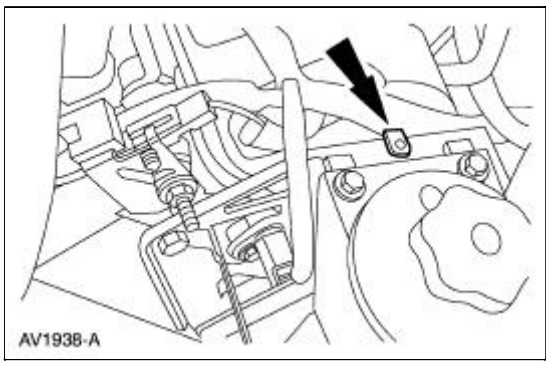
15. Disconnect the coolant reservoir electrical connector.



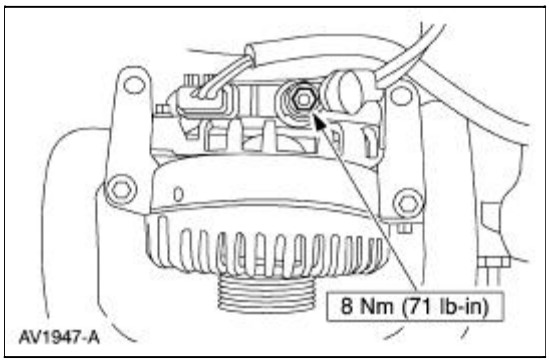
16. Disconnect the following connectors:
    - Camshaft position (CMP) sensor
    - LH radio ignition interference capacitor



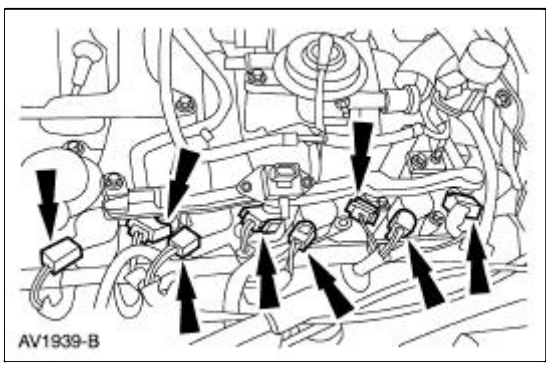
17. Separate the wiring harness from the power steering reservoir bracket.



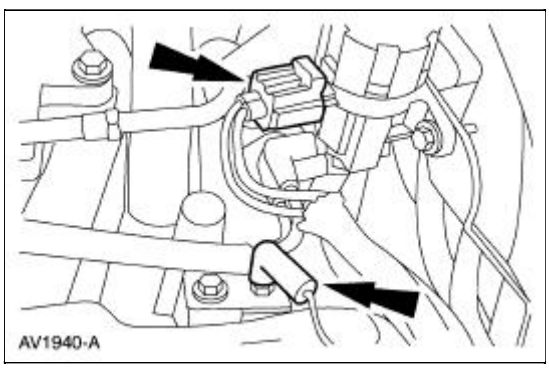
18. Disconnect the generator connectors:
    - Battery power supply wire
    - Voltage regulator



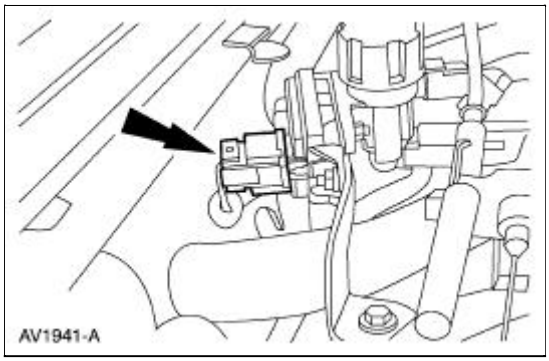
19. Disconnect the following connectors:
    - LH fuel injectors
    - LH ignition coils



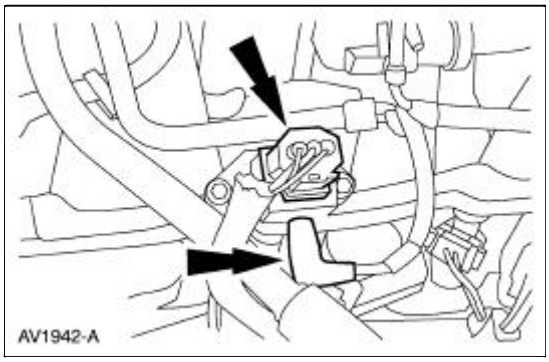
20. Disconnect the following connectors:
    - Exhaust vacuum regulator (EVR)
    - Ground wire



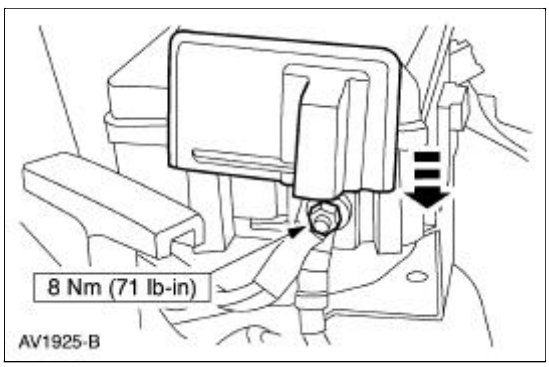
21. Disconnect the EGR pressure transducer electrical connector.



22. Disconnect the fuel pressure sensor electrical connector and the vacuum hose.

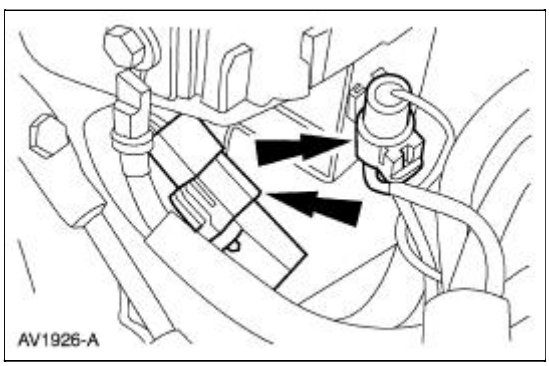


23. Slide cover up and remove the nut and the power distribution box battery supply wire.

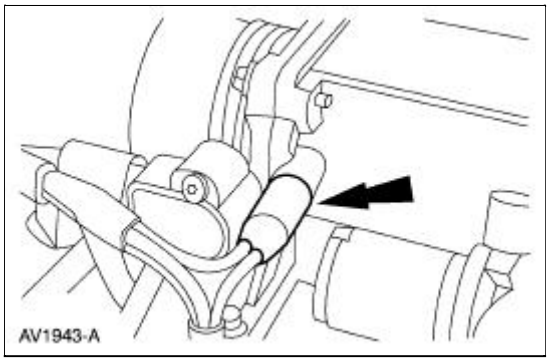


24. **NOTE:** These two connectors are located under the power distribution box.

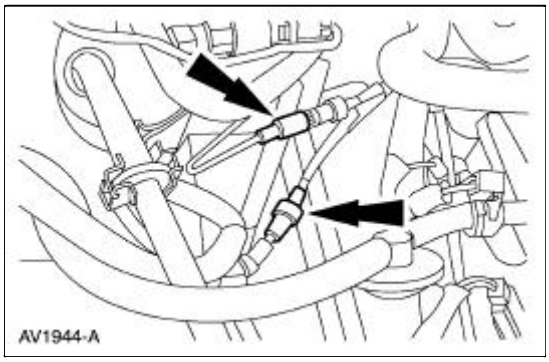
    Disconnect the two connectors.



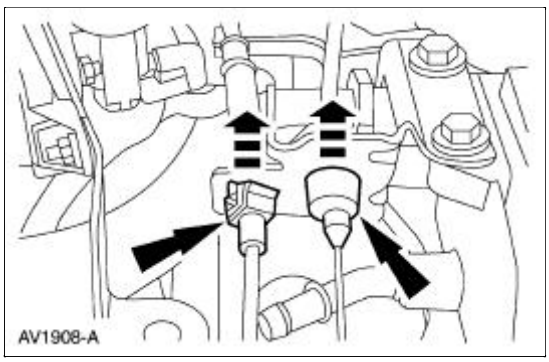
25. Disconnect the main vacuum hose.



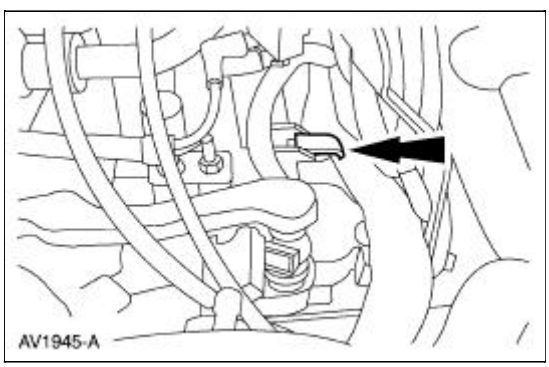
26. Disconnect the vacuum lines



27. Squeeze the two locking tabs, and remove the accelerator cable and the speed control cable (if equipped) from the bracket and position aside.

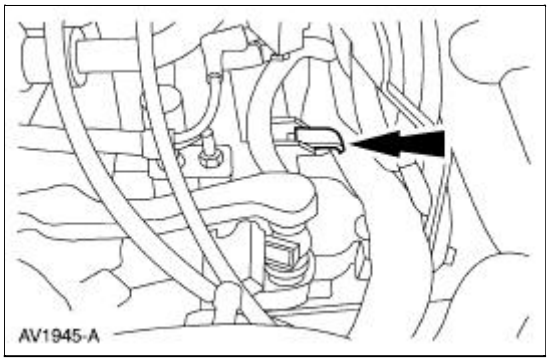


28. Separate the fuel charging wiring (9D930) from the rear of the intake manifold (9424) and remove from the vehicle.



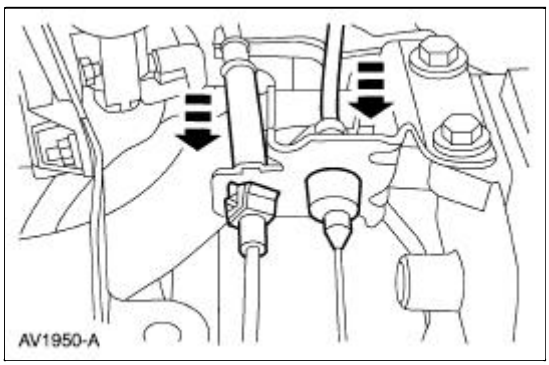
Installation

1. Position the fuel charging wiring in the vehicle and attach to the rear of the intake manifold.

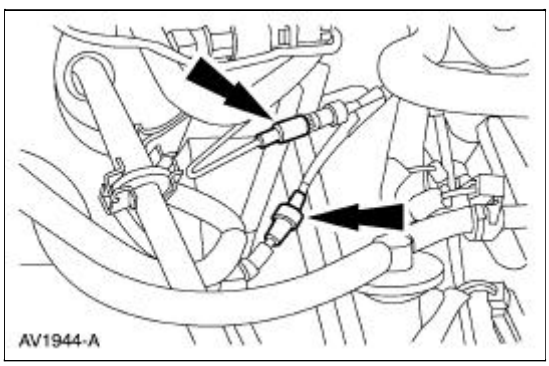


2. **NOTE:** Make sure the locking clips are fully engaged into the bracket.

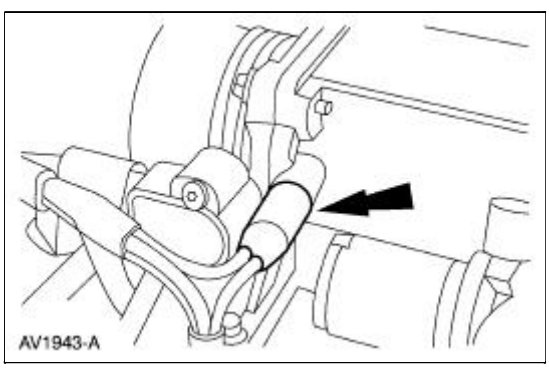
   Reposition the accelerator cable and the speed control cable (if equipped) and install the cables into the bracket.



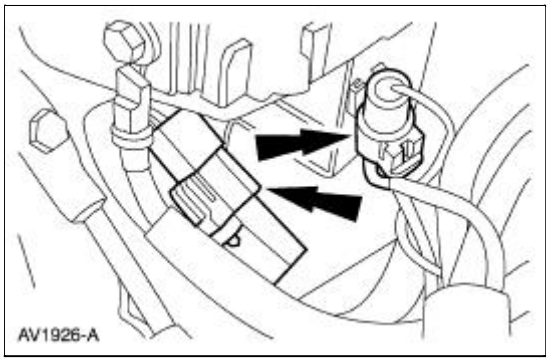
3. Connect the vacuum lines.



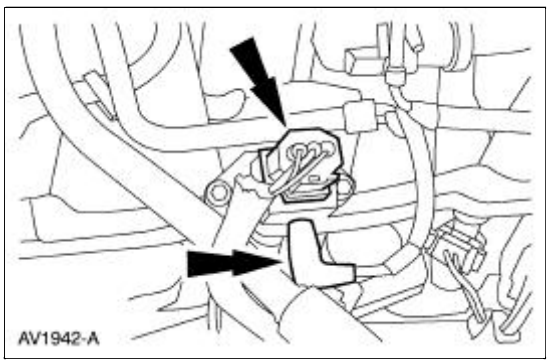
4. Connect the main vacuum hose.



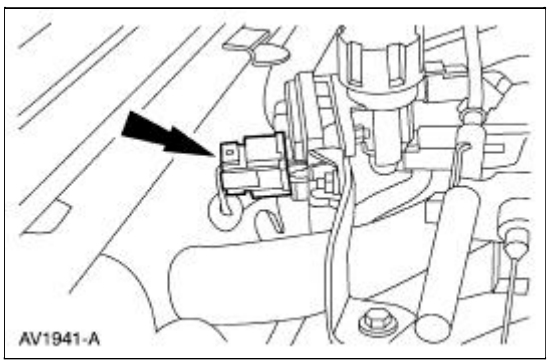
5. Connect the two connectors.



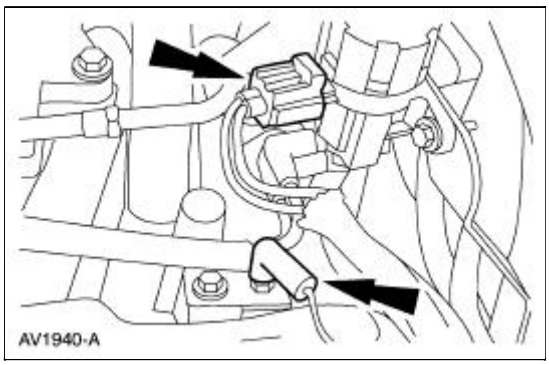
6. Install the battery supply wire, tighten the nut and close the cover.
7. Connect the fuel pressure sensor and the vacuum hose.



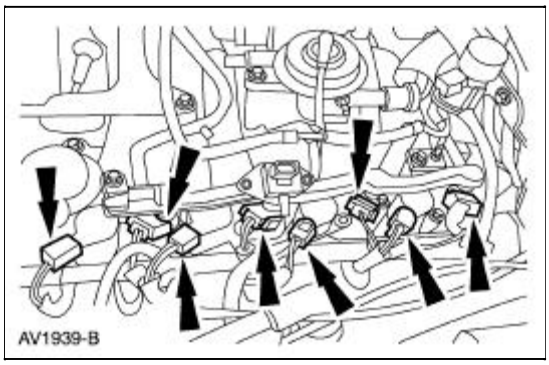
8. Connect the EGR pressure transducer electrical connector.



9. Connect the following connectors:
    - Ground wire
    - Exhaust vacuum regulator (EVR)

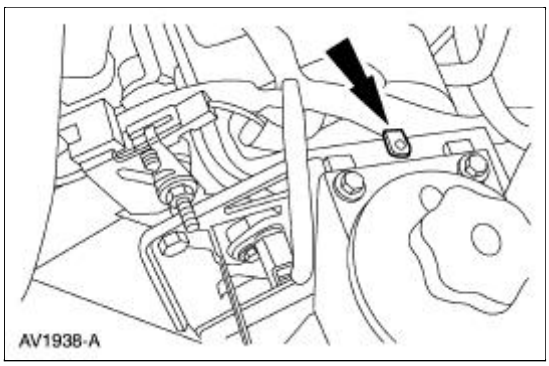


10. Connect the following connectors:
    - LH fuel injectors
    - LH ignition coils

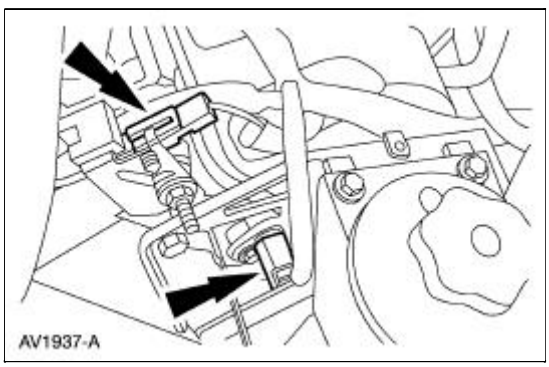


11. Connect the following generator connectors:
    - Voltage regulator
    - Battery supply

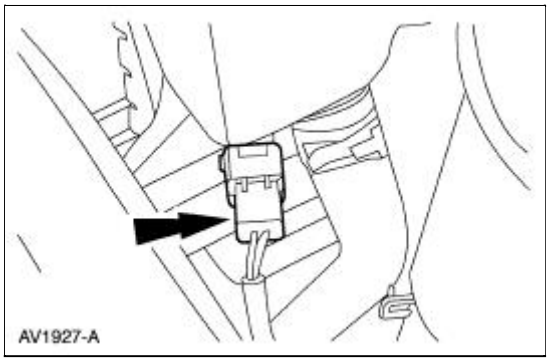
12. Install the wiring harness retainers to the power steering reservoir bracket.



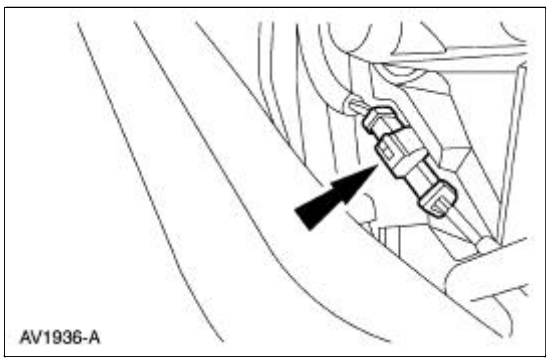
13. Connect the following connectors:
    - LH radio ignition interference capacitor
    - CMP sensor



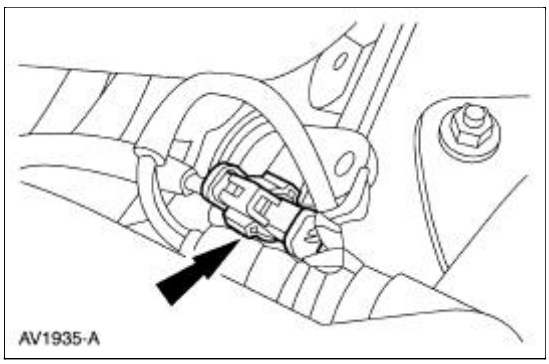
14. Connect the coolant reservoir electrical connector.



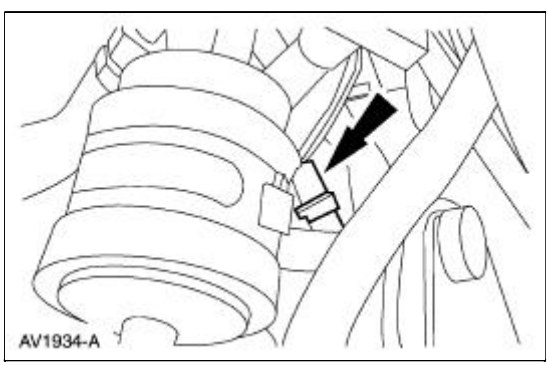
15. Raise the vehicle.
16. Connect the LH (HO2S) electrical connector.



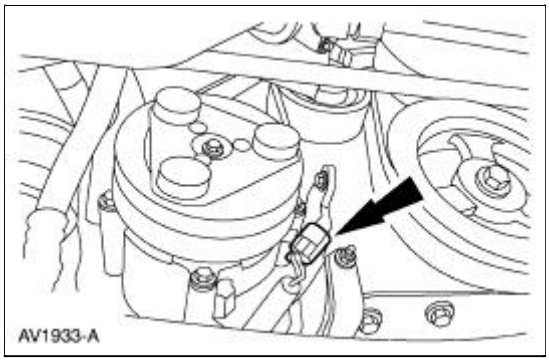
17. Connect the RH (HO2S) electrical connector.



18. Connect the A/C compressor clutch electrical connector.

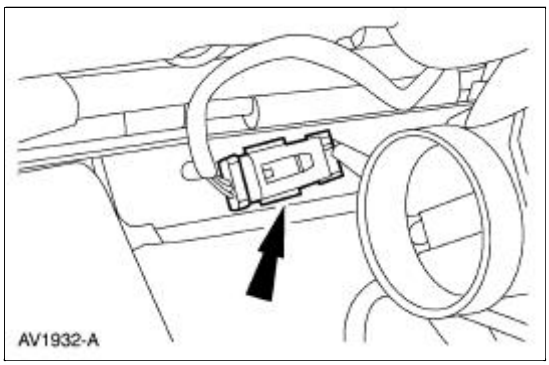


19. Connect the CKP electrical connector.

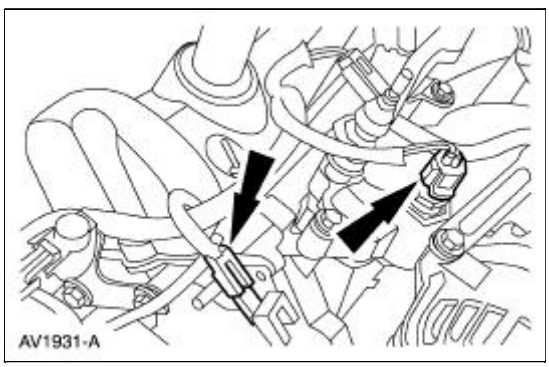


20. Lower the vehicle.

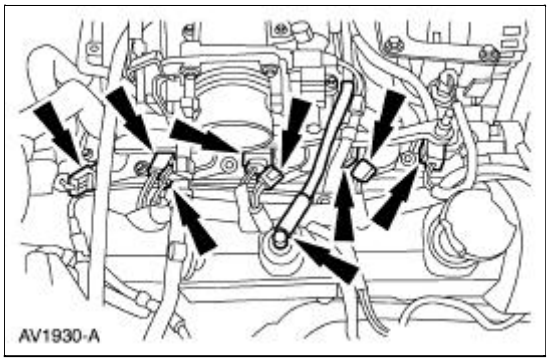
21. Connect the 16 pin connector.



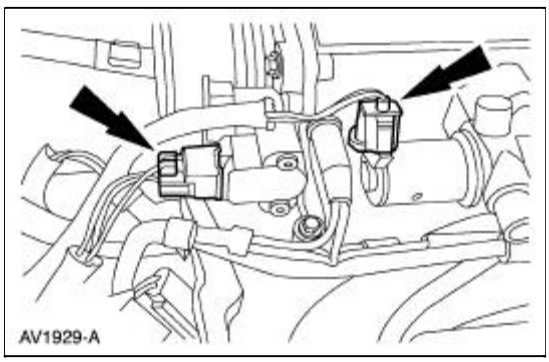
22. Connect the following connectors:
    - ECT sensor
    - RH radio ignition interference capacitor



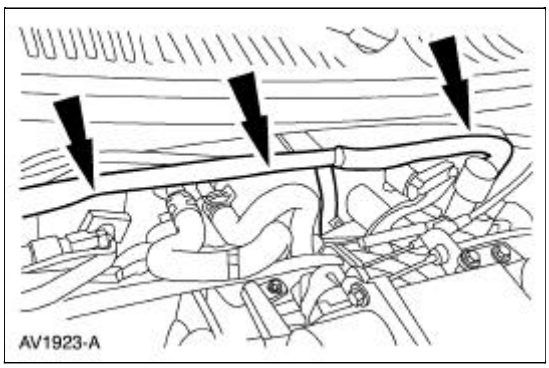
23. Connect the following connectors:
    - PCV hose
    - Four fuel injectors
    - Four ignition coils



24. Connect the following connectors:
    - IAC valve
    - TP sensor



25. Install the wiring harness retainers to the dash panel.



26. Connect the 42 pin connector.
27. Connect the air cleaner outlet tube.
28. Connect the battery ground cable.

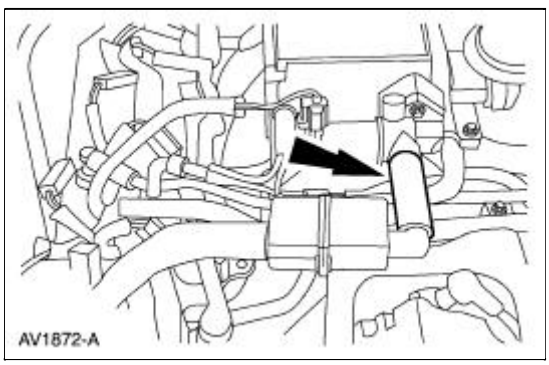
Fuel Injection Supply Manifold

Removal

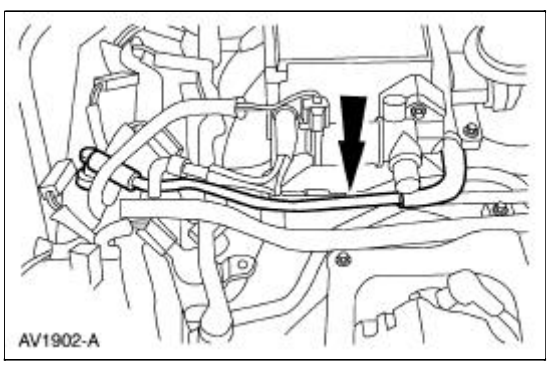
WARNING: Do not smoke or carry lighted tobacco or open flame of any type when working on or near any fuel related components. Highly flammable mixtures are always present and may be ignited. Failure to follow these instructions may result in personal injury.

WARNING: Fuel in the fuel system remains under high pressure even when the engine is not running. Before working on or disconnecting any of the fuel lines or fuel system components, the fuel pressure must be relieved. Failure to follow these instructions may result in personal injury.

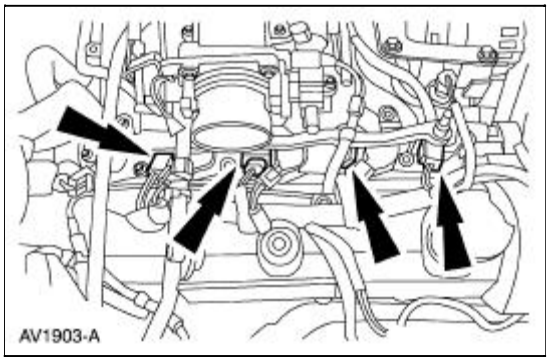
1. Disconnect the battery ground cable (14301). For additional information, refer to Section 414-01 .
2. Disconnect the air cleaner outlet tube. For additional information, refer to Section 303-12 .
3. Relieve the fuel pressure. For additional information, refer to Section 310-00 .
4. Disconnect the fuel line. For additional information, refer to Section 310-00 .
5. Remove the throttle body (9E926). For additional information, refer to Throttle Body in this section.
6. Remove the idle air control (IAC) hose and position it out of the way.



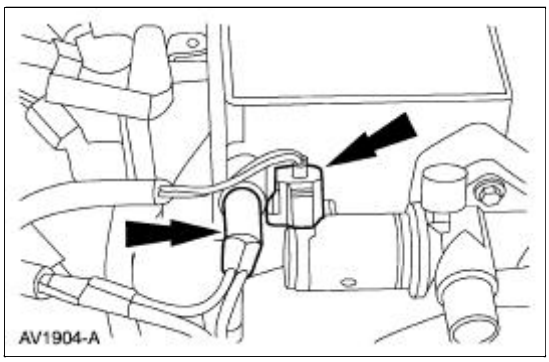
7. Remove the positive crankshaft ventilation (PCV) hose.



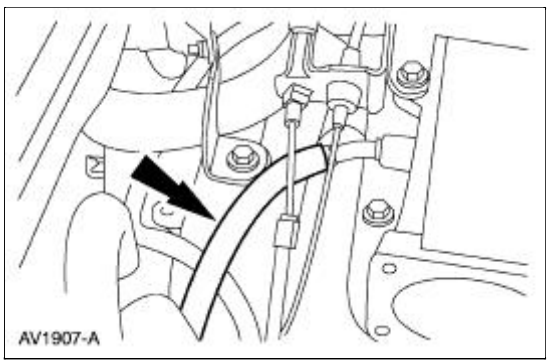
8. Disconnect the four RH fuel injector electrical connectors.



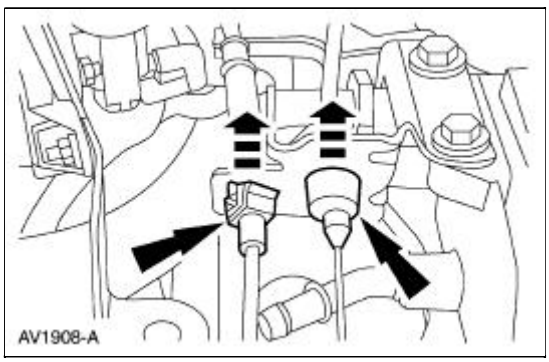
9. Disconnect the IAC electrical connector and the main chassis vacuum hose.



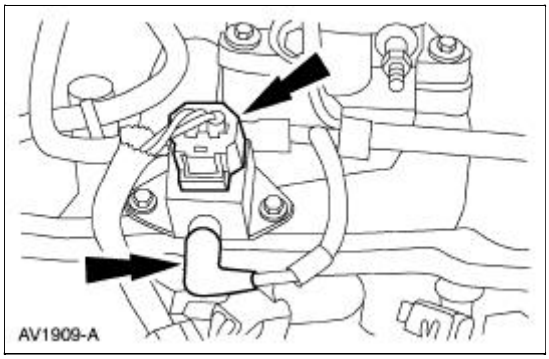
10. Remove the hose.



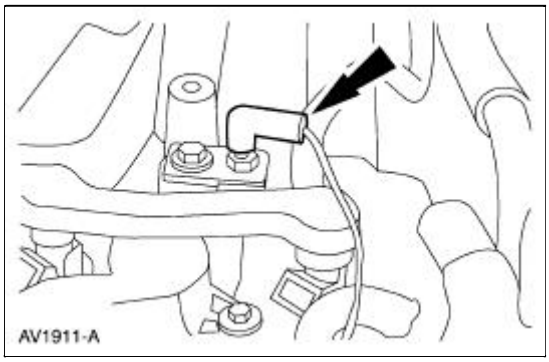
11. Squeeze the two locking tabs, and remove the accelerator cable and the speed control cable (if equipped) and position aside.



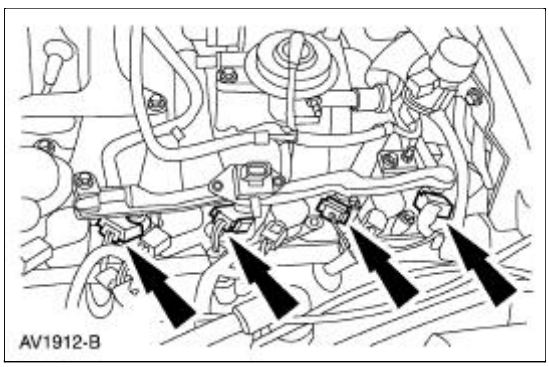
12. Disconnect the fuel pressure sensor electrical connector and the vacuum hose.



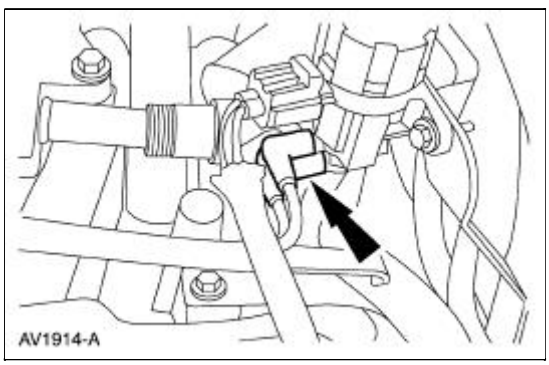
13. Disconnect the ground wire.



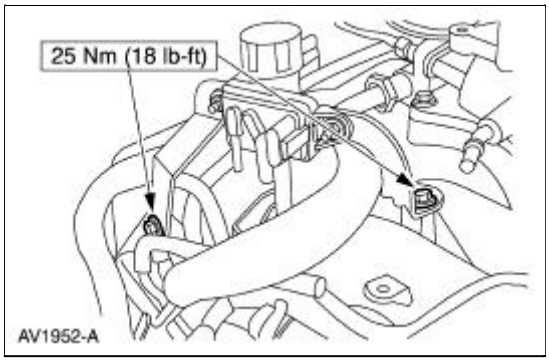
14. Disconnect the LH fuel injector electrical connectors.



15. Remove the exhaust vacuum regulator (EVR) solenoid vacuum lines.

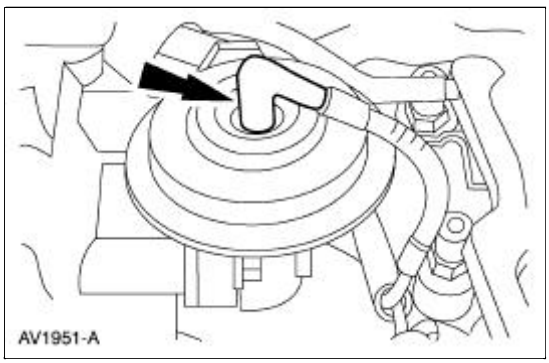


16. Remove the bolts from the EGR pressure transducer bracket and position aside.



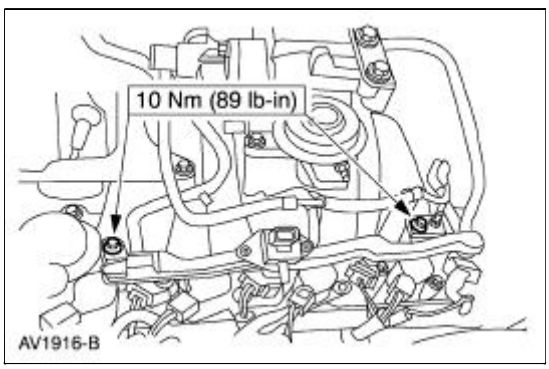
17. Remove the EGR to exhaust manifold tube. For additional information, refer to Section 303-08 .

18. Disconnect the exhaust valve recirculation (EGR) vacuum line.



19. **NOTE:** The LH side is shown, the RH is similar.

    Remove the four bolts and remove the supply manifold with the fuel injectors attached.

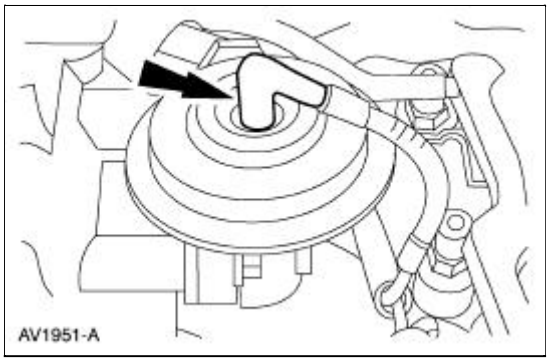


Installation

1. **NOTE:** The LH side is shown, and the RH is similar.

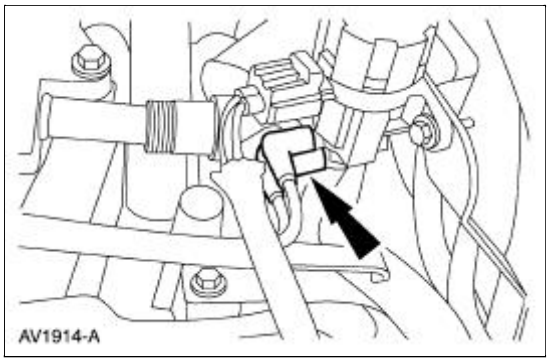
   Install the supply manifold and tighten the four bolts.

2. Connect the EGR vacuum line.

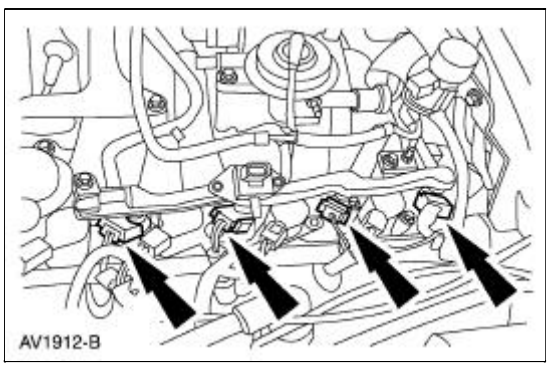


3. Install the EGR to exhaust manifold tube. For additional information, refer to Section 303-08 .
4. **NOTE:** The engine is removed for clarity.

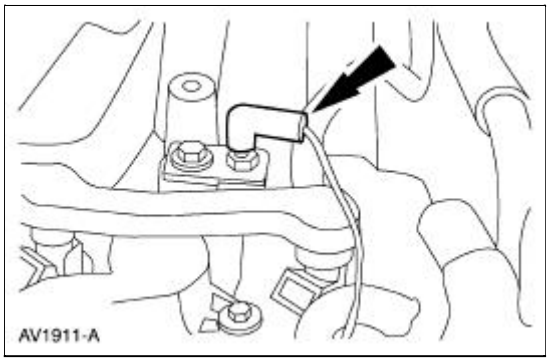
   Position the EVR bracket and tighten the bolts.
5. Connect the EVR solenoid vacuum lines.



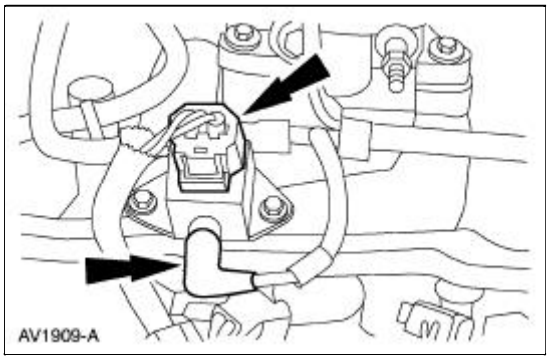
6. Connect the LH fuel injector electrical connectors.



7. Connect the ground wire.

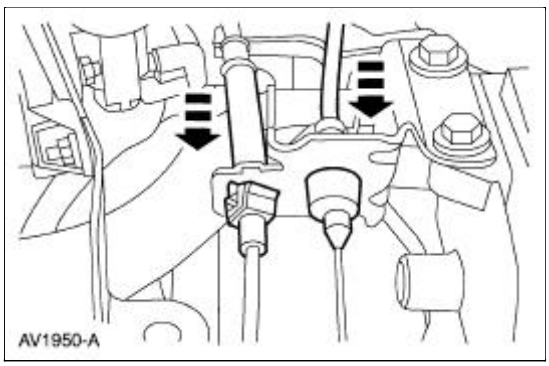


8. Connect the fuel pressure sensor electrical connector and the vacuum hose.

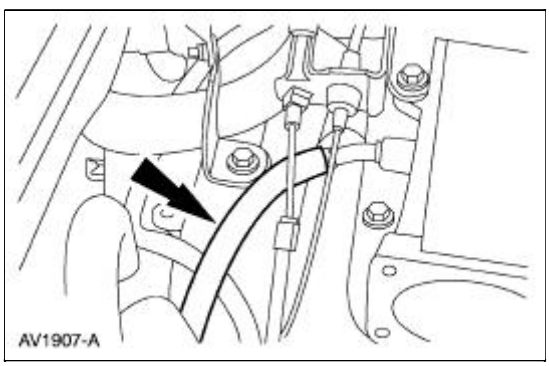


9. **NOTE:** Make sure the locking clips are fully engaged into the bracket.

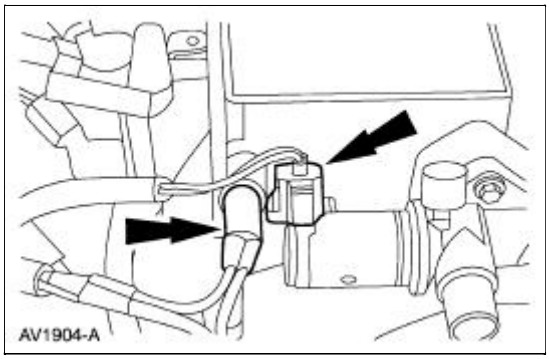
   Reposition the accelerator cable and the speed control cable (if equipped) and install the cables into the bracket.



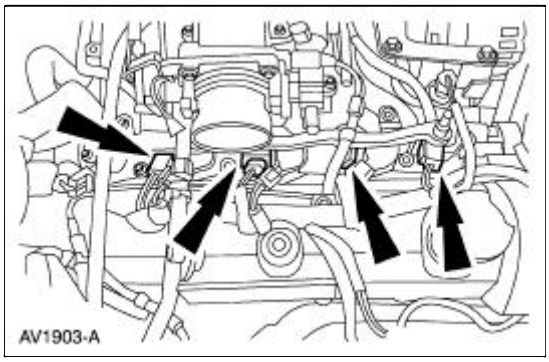
10. Connect the hose.



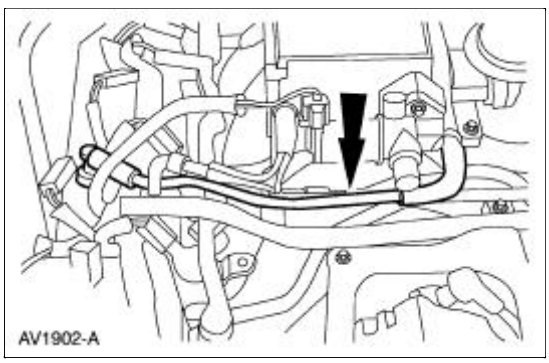
11. Connect the IAC electrical connector and install the main chassis vacuum hose.



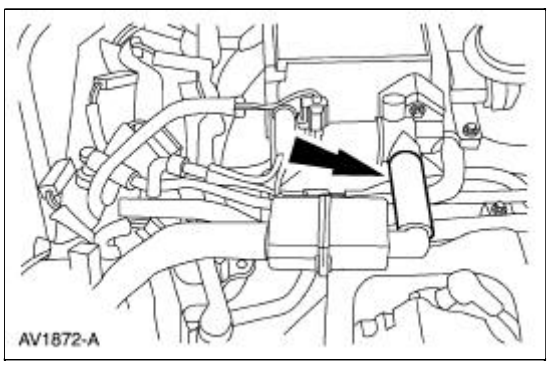
12. Connect the four RH fuel injector electrical connectors.



13. Connect the PCV hose.



14. Position the IAC hose and connect the hose.



15. Install the throttle body.

16. Connect the fuel line.

17. Connect the air cleaner outlet tube.
18. Connect the battery ground cable.